

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-239670  
 (43)Date of publication of application : 04.09.2001

(51)Int.Cl. B41J 2/06  
 B41J 2/125

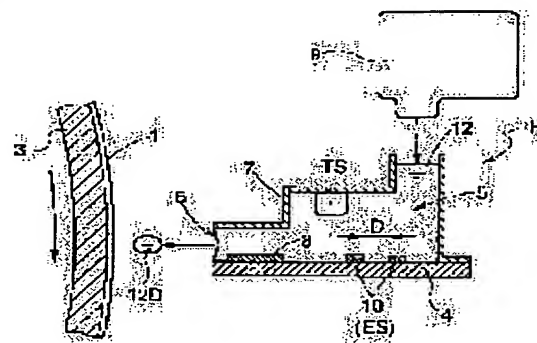
(21)Application number : 2000-050865 (71)Applicant : NORITSU KOKI CO LTD  
 (22)Date of filing : 28.02.2000 (72)Inventor : KIMURA KAZUHIRO  
 YAMAMOTO YUJI

## (54) INK JET PRINTER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To constitute an electrostatic ink jet printer performing print operation correctly regardless of the conductivity of ink rationally.

**SOLUTION:** A print head H arranged to eject ink 12 with electrostatic force is provided with a sensor ES for measuring the conductivity of the ink 12 and a correction means sets a longer output time of a pulse signal for driving the electrode of the print head H for a lower conductivity measured by the conductivity sensor ES.



## LEGAL STATUS

[Date of request for examination]  
 [Date of sending the examiner's decision of rejection]  
 [Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]  
 [Date of final disposal for application]  
 [Patent number]  
 [Date of registration]  
 [Number of appeal against examiner's decision of rejection]  
 [Date of requesting appeal against examiner's decision of rejection]  
 [Date of extinction of right]

**THIS PAGE BLANK (USPTO)**

**Japanese Laid-Open Publication**

**No. 239670/2001 (*Tokukai* 2001-239670)**

**A. Relevance of the Above-identified Document**

The following is a partial English translation of exemplary portions of non-English language information that may be relevant to the issue of patentability of the claims of the present application.

**B. Translation of the Relevant Passages of the Document**

See the attached English Abstract.

...

[0001]

[Field of the invention]

The present invention relates to improvements in an ink jet printer which ejects ink from a nozzle by electrostatic attraction caused by applying a voltage to the ink, so as to carry out printing.

[0002]

[Prior art]

The ink jet printer arranged as above is called an electrostatic ink jet printer. The electrostatic ink jet printer carries out printing in the following manner: (i) ink is supplied to a head having many nozzles, (ii) a pulse signal of high voltage is supplied to portions

**THIS PAGE BLANK (USPTO)**

corresponding to respective nozzles, so as to electrically charge the ink, (iii) minute particles of the ink (hereinafter referred to as ink droplet) are ejected from a desired nozzle(s) by utilizing electrostatic attraction or repulsion, and (iv) the printing is carried out to a print target, such as a printing sheet.

[0003]

[Problems to be solved by the invention]

In the case in which the electrostatic ink jet printer is used at a high environmental temperature, an ink dot formed on the print target is large. In contrast, in the case in which the electrostatic ink jet printer is used at a low environmental temperature, the ink dot formed on the print target is small. As already known in the art of the inkjet printers (for example, Tokukaihei 5-31916, Tokukaihei 6-182997, etc.) except for the electrostatic ink jet printer, a reason of varying the size of the dot according to the environmental temperature may be because of a phenomenon in which a viscosity of the ink changes according to the environment temperature. However, even in the case in which the electrostatic ink jet printer uses the ink whose viscosity is unlikely to change even when the environment temperature changes, it is possible to observe a phenomenon in which the size of the ink dot formed on the print target varies. This

**THIS PAGE BLANK (USPTO)**

phenomenon is observed only in the electrostatic ink jet printer, so that it is possible to consider that electric conductivity of the ink is varied. Therefore, there exists a need for a technology for solving such problems and carrying out the printing highly accurately.

...

**THIS PAGE BLANK (USPTO)**



(19) 日本国特許庁 (J P) (12) 公開特許公報 (A)

(11) 特許出願公開番号  
特開2001-239870  
(P2001-239870A)  
(43) 公開日 平成13年9月4日(2001.9.4)

(51) Int. Cl. <sup>7</sup>	識別記号	P I
B 41 J 2/06		B 41 J 3/04
2/125		1 03 G 2 C 057
		1 04 K

特許出願公開番号  
特開2001-239870  
(P2001-239870A)  
(43) 公開日 平成13年9月4日(2001.9.4)

審査請求 未請求 請求項の数 4 O L (全 5 頁)

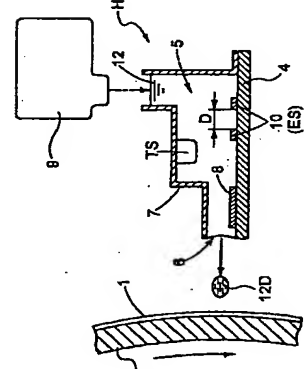
(21) 出願番号	特開2000-50865(P2000-50865)	(71) 出願人	000135313
(22) 出願日	平成12年2月28日(2000.2.28)	ノーリツ株式会社	和歌山県和歌山市梅原579番地の1
		(72) 発明者	木村 和宏
		(73) 発明者	和歌山県和歌山市梅原579番地の1 ノーリツ株式会社
		(74) 代理人	山本 有治
			和歌山県和歌山市梅原579番地の1 ノーリツ株式会社
			和歌山県和歌山市梅原579番地の1 ノーリツ株式会社
			弁理士 北村 修一郎 (外1名)
			Fターム(参考) 20057 AF22 AL14 AL24 AL40 AU21
			AL22 AN06 BO05 DB01 DB08
			DC08 DC15 DD08 DD09 DD22

(54) 発明の名称 インクジェットプリンター

(57) 要約

【課題】 インクの導電率に影響を受けることなく適正なプリントを行い得る静電式のインクジェットプリンターを合理的に構成する。

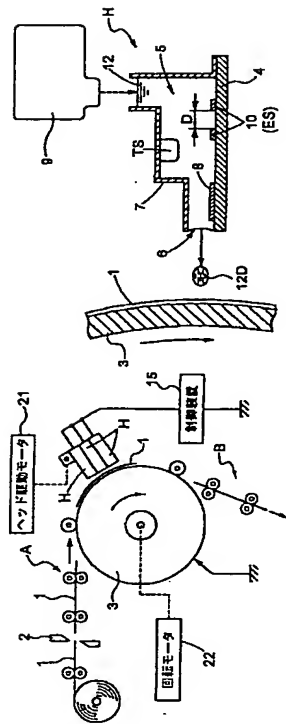
【解決手段】 静電気でインク12を吐出させる構造のプリントヘッドHに対してインク12の導電率を計測する導電率センサESを備え、共に、この導電率センサESで計測される導電率が低いほどプリントヘッドHの電極を駆動するパルス信号の出力時間を長く設定する補正手段を備える。



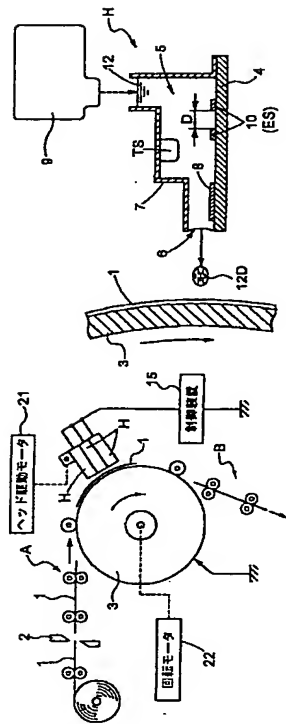


(6)

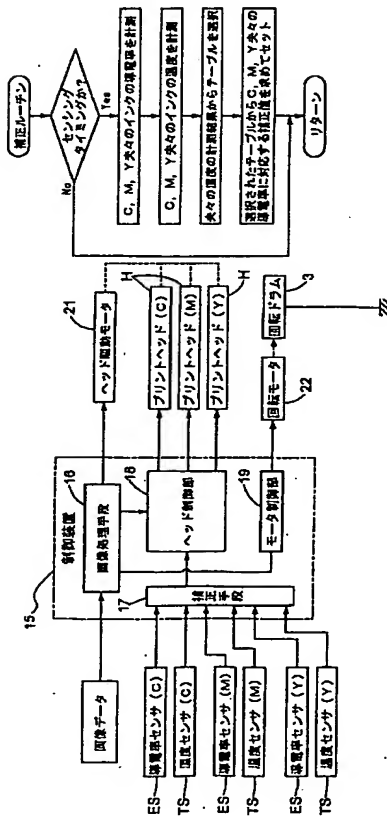
【図1】



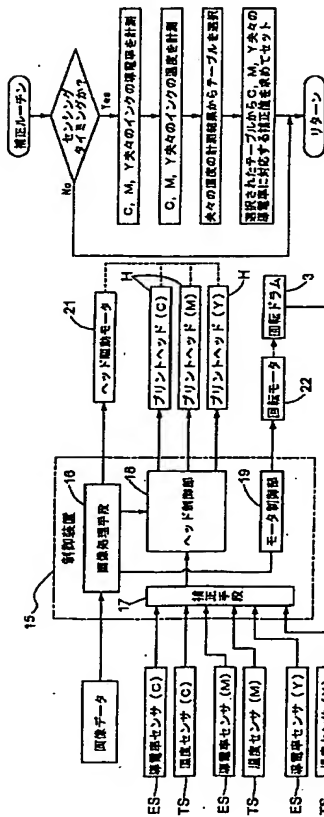
【図2】



【図3】



【図4】



Best Available Copy

**THIS PAGE BLANK (USPTO)**